

REMARKS

The Office Action dated February 12, 2004 has been received and carefully noted. The above amendments to the claims and the following remarks, are submitted as a full and complete response thereto.

Claims 1, 4-9 and 11-14 have been amended. No new matter has been added, and no new issues are raised which require further consideration and/or search. Claims 15 and 16 are allowed. Claims 1-14 are submitted for consideration.

Claims 1-6 and 8-13 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,163,700 to Hussain et al. in view of U.S. Patent No. 5,946,612 to Johansson. The rejection is traversed as being based on references that neither teach nor suggest the novel combination of features clearly recited in independent claims 1 and 8.

Claim 1, upon which claims 2-13 depend, recites a device for measuring usage of system resources in a communication network. The device includes means for measuring which radio resources are used by a transmission in a system. The transmission is a communication session that represents a logical association between a terminal and at least one of a plurality of network entities. The device also includes means for measuring which data service units are used for the transmission in the system; and means for measuring which transmission characteristics are used by the transmission in the system. All of the means for measuring are adapted for performing respective collective measurement.

Claim 8, upon which claims 9-14 depend, recites a method for measuring a usage of system resources in a communication network. The method includes the steps of measuring parameters of circumstances of a transmission in a system. The transmission is a communication session that represents a logical association between a terminal and at least one of a plurality of network entities. The parameters being at least radio resources used by the transmission in a system, data service units used for the transmission in a system, and transmission characteristics used by the transmission in a system, wherein said measuring is carried out collectively.

As will be discussed below, the cited prior art references of Hussain et al. and Johansson fail to disclose or suggest the elements of any of the presently pending claims.

Hussain et al. teaches an adaptive method of reserving radio resources to localized service area mobile subscribers as needed. A base station controller within the localized service area stores a radio resource table that has a list of radio resource usage percentages and associated reservation percentages for localized service area mobile subscribers and a list of radio resource usage percentages for public mobile subscribers. Col. 4, line 65-Col. 5, lines 9. Once the table is set up, a network operator can set a predefined time period for scanning the percentage of radio resources used by both the public mobile subscribers and the localized service area mobile subscribers. Col. 5, lines 46-55. During the predefined time period, a scanning logic within the base station controller scans for the percentage of radio resources used by both the public mobile subscribers and the localized service area mobile subscribers. Col. 5, lines 64-67. Once

the base station controller calculates the average percentages of the radio resources used by public mobile subscribers and the localized service area mobile subscribers, a comparison logic within the base station controller compares the average percentages with a resource usage profile, which includes the last calculated percentage of radio resources used by the localized service area mobile subscribers, the last calculated percentage of radio resource used by public mobile subscribers and the last determined associated reservation percentage. If the average calculated percentages differ from the last calculated percentages, an adaptation logic within the base station controller determines and sets a new reservation percentage and stores the new reservation percentage in the radio resource table. Col. 6, lines 26-51.

As such, Hussain deals with periodically measuring traffic generated by localized service area mobile subscribers and traffic generated by public mobile subscribers, comparing the traffic to each other and to a reservation of radio resource, and if there is a mismatch, automatically correcting the reservation to effectively and continuously monitor the division of radio resources between subscribers of a localized service area and subscribers of a public mobile network.

Johannson teaches a method and apparatus for measuring cellular telephone traffic volume in a micro-cell site. According to one embodiment, a receiver located at the site measures the signal strength of transmissions from mobile stations transmitting from locations within and around the site. A processor communicating with the receiver

records the signal strength measurements and their duration and extrapolates the cellular telephone traffic volume based on the measurements. Col. 2, lines 35-45.

Applicants submit that the combination of Hussain et al. and Johannson fails to teach or suggest the combination of elements in any of the presently pending claims. The Office Action states that Col. 3, lines 23-26 of Hussain et al. teaches measuring which radio resources are used by a transmission as recited in claims 1 and 8. However, the cited section of Hussain et al. and Col. 5, lines 64-65 of Hussain et al., as outlined above, teach that the scanning logic within the base station controller scans for the percentages of radio resources used by public mobile subscribers and the localized service area mobile subscribers. Applicants submit that scanning for the percentages of radio resources is quite different from measuring radio resource used by a transmission. Scanning radio resources used by different groups of subscribers concern traffic measurement, wherein traffic is constituted by submissions from more than one user. Therefore, Hussain et al. merely teaches traffic measurement similar to previously cited prior art documents. Specifically, the traffic measurement is conducted without any knowledge of logical association(s) between the traffic components. Claims 1 and 8, on the other hand, recite measuring which radio resources are used in a transmission. The present invention discloses that a transmission has to be regarded as a communication session. This represents a logical association or a logical context between an individual terminal and network entities. Page 8 of the present invention states that a HSCSD transmission has n RF channels of the interface.

Furthermore, claims 1 and 8 recite measuring which data service units are used for the transmission. Page 9, line 11 – page 10, line 5 of the present invention discloses that data service units are hardware units in a network device, such as an interworking function or a mobile services switching center. The Office Action states that hardware can be defined as a public subscriber or a localized service area subscriber as taught in Hussain et al. Applicant submits that even if the Examiner’s interpretation of hardware units is accurate, Hussain et al. merely teaches subscriber hardware units, i.e., terminals which are different from the hardware data service units recited in the present invention. Moreover, each hardware unit as recited in claims 1 and 8 has a relation to a distinct transmission, wherein different network device hardware units (data service units) relate to the same transmission.

The Office Action also states that transmission characteristics correspond to traffic parameters. Page 10, first paragraph of the present invention discloses that transmission characteristics relate to a transmission type represented by information transfer capabilities included in bearer capability information elements. As such, traffic parameter, such as interference ratio or usage partitioning, is different from the transmission type of the present invention. Hence, Hussain et al., does not teach or even suggest the transmission type of the present invention.

Johannson fails to cure the deficiencies in Hussain et al. as Johannson does not even suggest measuring which radio resources are used by a transmission in the system and measuring which data service units are used for transmission in the system as recited

in claims 1 and 8. Furthermore, Johannson merely teaches performing local traffic measurements. However, on the basis of the traffic measurements in terms of signal strength of the transmissions, no information can be collected concerning the type of transmission and representing the transmission characteristics, such as speech and unrestricted digital information as taught in the present invention. Therefore, Applicant respectfully asserts that the rejection under 35 U.S.C. §103(a) should be withdrawn because neither Hussain et al. nor Johannson, whether taken singly or combined, teaches or suggests each feature of claims 1 and 8 and hence, dependent claims 2-6 and 9-13 thereon.

Claims 7 and 14 were rejected under were rejected under 35 U.S.C. 103(a) as being unpatentable over Hussain et al. in view of Johansson and in further view of U.S. Patent No. 6,77,817 to Hakaste et al. The rejection is traversed as being based on references that neither teach nor suggest the novel combination of features clearly recited in independent claims 1 and 8, upon which claims 7 and 14 depend.

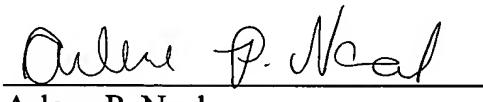
Hakaste et al. does not cure the deficiencies in Hussain et al. and Johannson as Hakaste et al. does not even suggest measuring which radio resources are used by a transmission in the system and measuring which data service units are used for transmission in the system as recited in claims 1 and 8. Therefore, Applicant respectfully asserts that the rejection under 35 U.S.C. §103(a) should be withdrawn because neither Hussain et al., Hakaste et al. nor Johannson, whether taken singly or combined, teaches or suggests each feature of claims 1 and 8 and hence, dependent claims 2 and 14 thereon.

As noted previously, claims 1-14 recite subject matter which is neither disclosed nor suggested in the prior art references cited in the Office Action. It is therefore respectfully requested that all of claims 1-14 be allowed and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,


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Enclosure: Petition for Extension of Time (3 months)